OBLON, SPIVAK, et al. DOCKET NO: 249791US2S DIV INVENTOR: Hideo ANDO, et al. SHEET 1 of 25

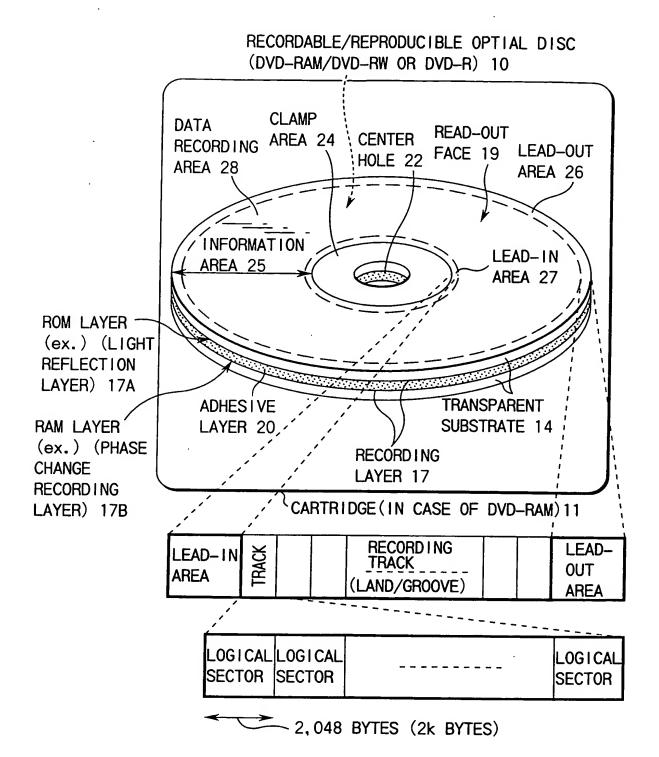


FIG. 1

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	ONE SECTOR (PHYSICAL SECTOR)								
PREVIOUS SECTOR	HEADER (EMBOSS)	SYNCHRO- NIZATION CODE	MODU- LATED SIGNAL		SYNCHRO- NIZATION CODE	MODU- LATED SIGNAL	HEADER OF NEXT SECTOR		

FIG. 2

	ONE ECC BLOCK 502 (CLUSTER OF 16 SECTORS = 32 kB)									
SECTOR 501s	SECTOR 501a	SECTOR 501b	SECTOR 501c			SECTOR 501q				

FIG.3

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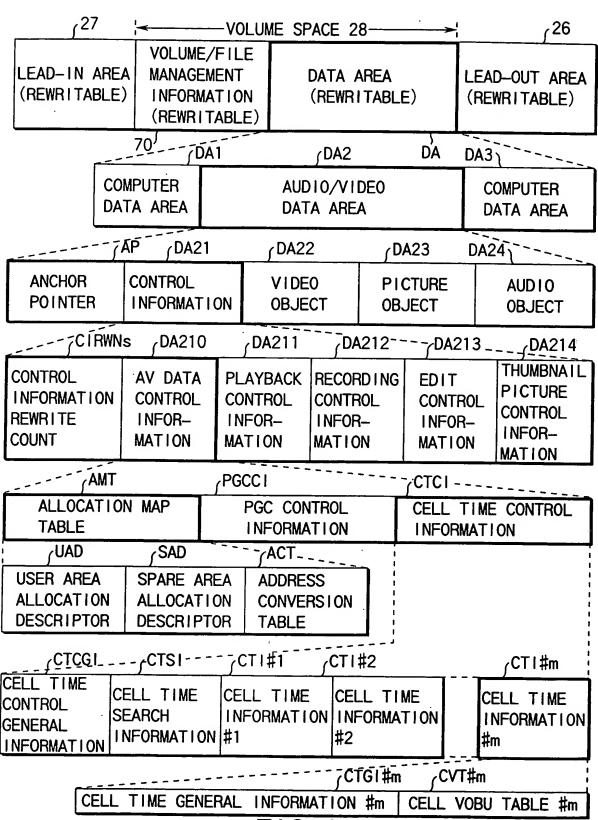


FIG. 4

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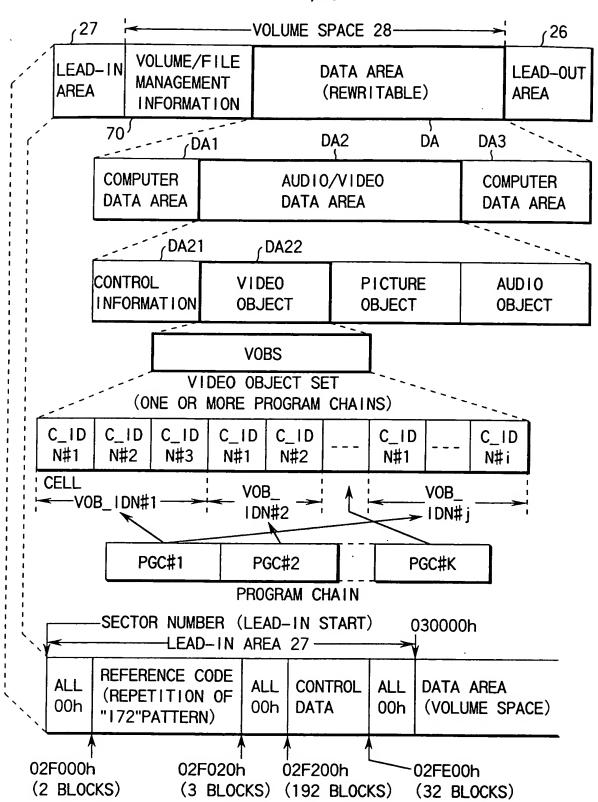


FIG.5

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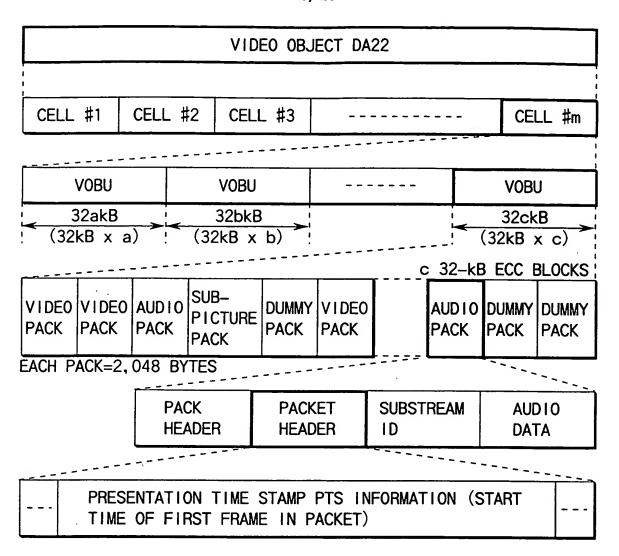


FIG. 6

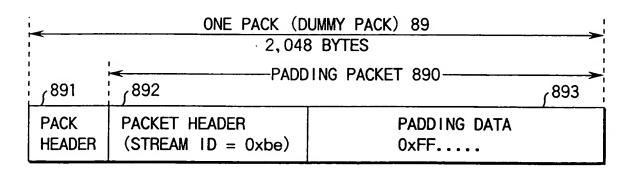


FIG. 7

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	NUMBER OF PICTURES IN VOBU#2	PIC	BER OF TURES VOBU#n	RES PICTURES PIC			PICT	ER OF URES OBU#n
CELL TIME CE ID DURA-DA TION SE	CELL TIME OF TABLE DED							
REFERRED TO AS EXTENT								
CELL DATA GENERAL INFOR- MATION TIME CODE TABLE ACQUIRED DEFECT: VIDEO INFOR- INFOR- MATION MATION						0 R- 0N	CELI SUB- PIC INFO	- TURE DR-
CELL TIME IN	NFORMATION	N CTI#m			=====			
CELL TIME GE	NERAL IN	FORMATION	#m (ELL	VOBU 1	ΓABLE	#m	
VOBU VOBU INFORMATION INFORMATION #1 #2								_
							i I	
VOBU GENERAL DUMMY PACK SYNCHRONIZATION INFORMATION								

FIG.8

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CORRESPONDING	LNEODHATION	LAICODHATION		NUMBER OF
INFORMATION	INFORMATION NAME	INFORMATION		NUMBER OF
		CONTENTS		BYTES USED
VOBU GENERAL	I-PICTURE	DIFFERENTIAL ADDRESS VALUE		1
INFORMATION	END	I-PICTURE END POSITION FROM		i
51,000 51,00	POSITION	VOBU START POSITION		
DUMMY PACK	NUMBER OF	NUMBER OF DUMMY PACKS IN VOI	BU	1
INFORMATION	DUMMY PACKS			
	DUMMY PACKS	DUMMY PACK INSERTION		2 x DUMMY
	DISTRIBUTION	DIFFERENTIAL ADDRESS FROM S		PACK
		OF VOBU, AND EACH NUMBER OF		NUMBER
		DUMMY PACKS (2 BYTES EACH)		
AUD 10	AUDIO STREAM	NUMBER OF CHANNELS OF AUDIO		1
	CHANNEL NUMBER	STREAM		
INFORMATION	I-PICTURE	DIFFERENTIAL ADDRESS VALUE (OF	1
	AUD10	SECTOR INCLUDING AUDIO PACK	0F	
	POSITION #1	THE SAME TIME AS 1-PICTURE		
İ	ĺ	START TIMÉ FROM START OF VOE	3U	
		(MSB = "0" : LOCATED BEFORE		i
		VOBU, MSB = "1" : LOCATED AF	TER	ļ
		VOBU)		
İ	I-PICTURE	INDICATE SAMPLE NUMBER OF AL	DIO	2
	START AUDIO	SAMPLE POSITION OF THE SAME		_
	SAMPLE	TIME AS I-PICTURE START TIME	EIN	
	NUMBER #1	SECTOR AS COEFFICIENT OF SEF		
		NUMBERS OF ALL AUDIO PACKS		1
	AUDIO	PRESENCE/ABSENCE OF		1
	SYNCHRONIZATION	SYNCHRONIZATION INFORMATION		
	INFORMATION	BETWEEN AUDIO AND VIDEO STRE	EAMS	
	FLAG #1	(NEXT ITEM IS NOT AVAILABLE	IF	
		ABSENT)		
	AUDIO	THE NUMBER OF AUDIO SAMPLES		2
	SYNCHRONIZATION	INCLUDED IN VOBU		
	DATA		i	
(
	I-PICTURE AUDIO	POSITION #2	SI	1
		AUDIO SAMPLE NUMBER #2	CONTENTS AS #1	2
	AUDIO SYNCHRONIZ	ATION FLAG #2	\$ <	1
	AUDIO SYNCHRONIZ	ATION DATA	8 1	2
				

FIG.9

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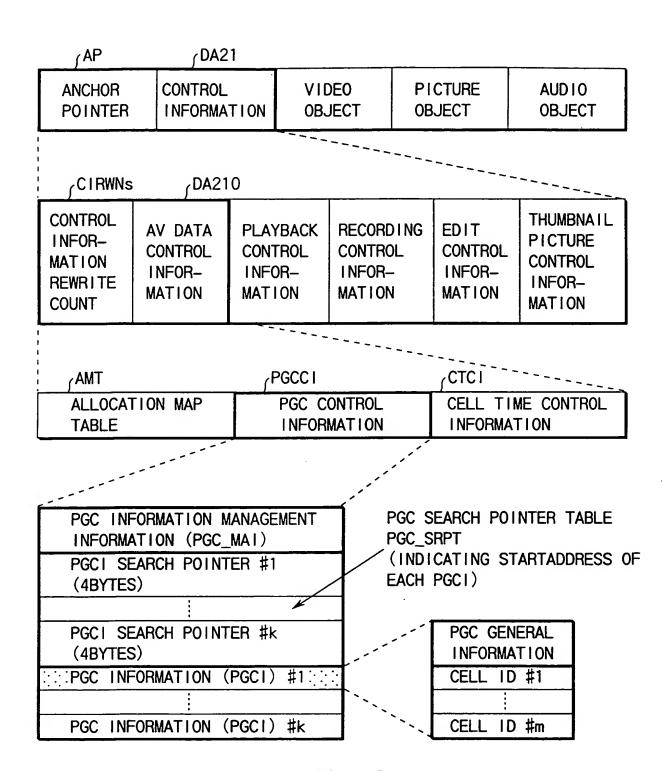


FIG. 10

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POSITIONS OF SHIFT PRODUCED BETWEEN ECC BLOCK BOUNDARY AND VOBU BOUNDARY

			—	CE	LL		 			
DATA	CHANG	E AREA	\	VOB	U#g			VOBU#	g+1	
ECC BLOCK		ECC BLOCK			ECC BLOCK	l			ECC BLOCK	

FIG. 11

SHIFT-REMOVED POSITIONS BETWEEN BOUNDARIES OF ECC AND VOBU

			,	CELI		,				
DATA (CHANGE	AREA		VOBU:	‡g	V0BU#g+1				
ECC BLOCK	ECC BLOCK				ECC BLOCK			4	ECC BLOCK	

FIG. 12

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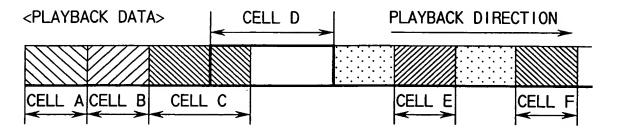


FIG. 13

PGC INFORMATION

PG	C#1	PG	C#2	PGC#3		
NUMBER (OF CELLS	NUMBER (OF CELLS	NUMBER OF CELLS = 5		
CELL#1	CELL A	CELL#1	CELL D	CELL#1	CELL E	
CELL#2	CELL B	CELL#2	CELL E	CELL#2	CELL A	
CELL#3	CELL C	CELL#3	CELL F	CELL#3	CELL D	
				CELL#4	CELL B	
				CELL#5	CELL E	

FIG. 14

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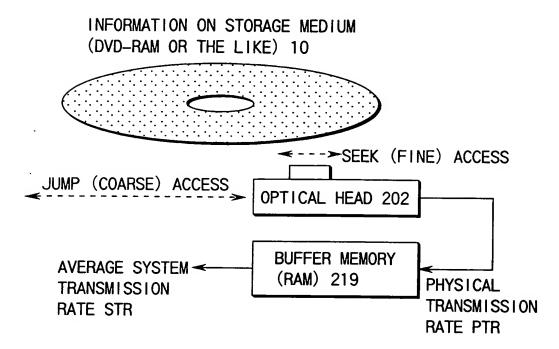
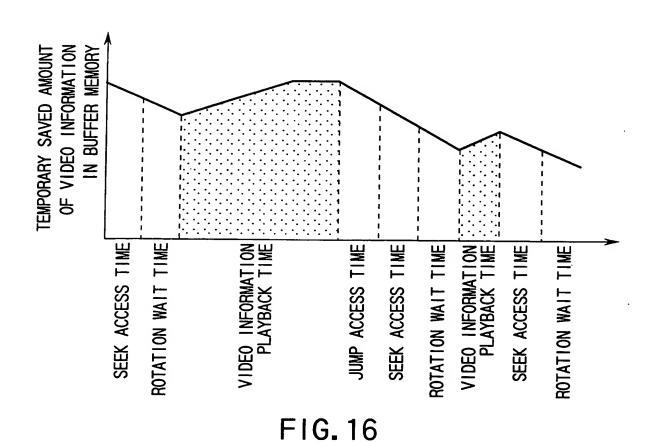
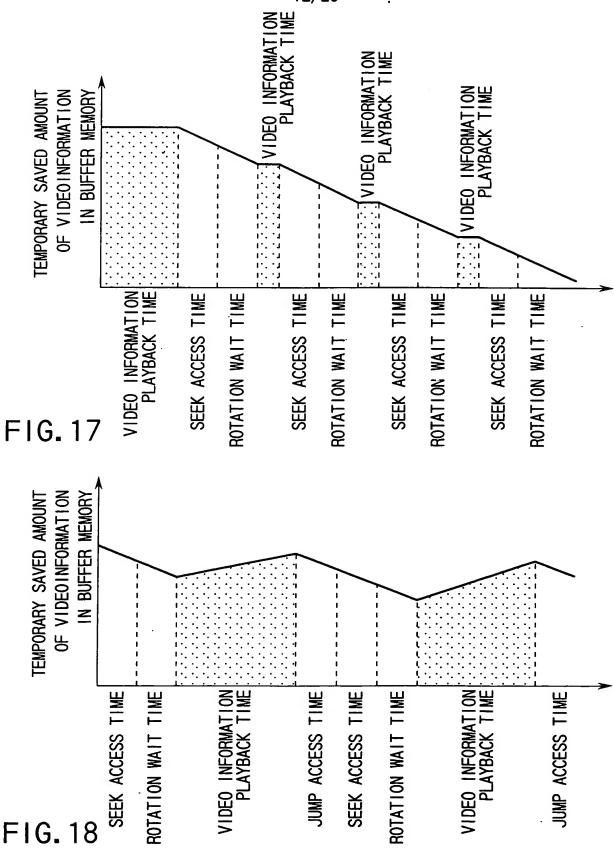


FIG. 15



OBLON, SPIVAK, et al. DOCKET NO: 249791US2S DIV INVENTOR: Hideo ANDO, et al. SHEET 12 of 25 12/25 VIDEO INFORMATION PLAYBACK TIME VIDEO INFORMATION PLAYBACK TIME [€€€] VIDEO INFORMATION PLAYBACK TIME SEEK ACCESS TIME ROTATION WAIT TIME SEEK ACCESS TIME ROTATION WAIT TIME SEEK ACCESS TIME ROTATION WAIT TIME ROTATION WAIT TIME SEEK ACCESS TIME



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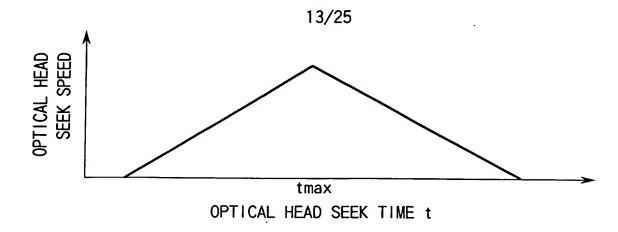


FIG. 19

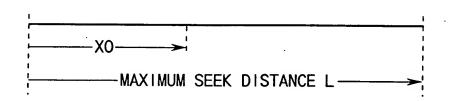


FIG. 20

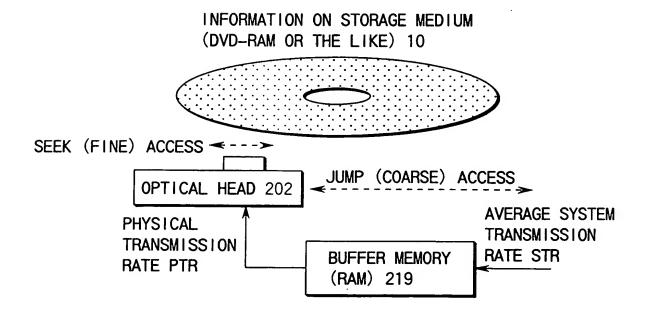


FIG. 21

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FREE AREA 107	CELL #1			CELL	#2	CELL #3			
									V0BU 108 j

FIG. 22

FREE AREA 107	CELL #1		CELL #2A		CELL #2B			CELL #3			
	V0BU 108a	V0BU 108b	V0BU	V0BU 108d	VO TO	OBU Q8e	V0BU 108f	V0BU 108g	V0BU 108h	V0BU 108 i	V0BU 108 j

FIG. 23

CELL #2A	CELL #1		CELL	CELL #2B			CELL #3		
VOBU VOBU	V0BU	V0BU	V0BU	VOBU	V0BU	V0BU	V0BU	V0BU	V0BU
108d* 108p	108a	108b	108c*	108q	108f	108g	108h	108 i	108 j

FREE AREA 106

FIG. 24

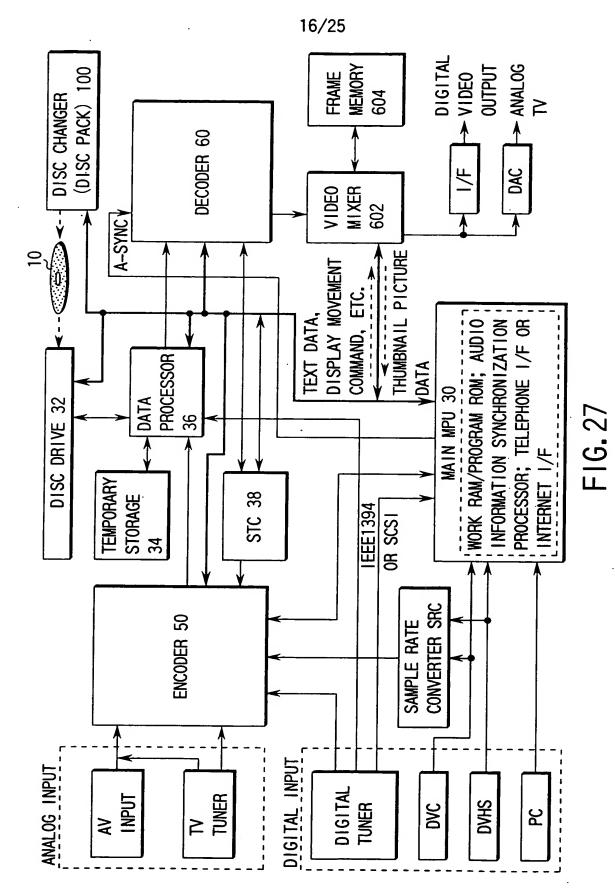
INVENTOR: Hideo ANDO, et al. SHEET 15 of 25 15/25 VIDEO INFORMATION PLAYBACK TIME VIDEO INFORMATION PLAYBACK TIME VIDEO INFORMATION PLAYBACK TIME IN BUFFER MEMORY OF VIDEOINFORMATION TEMPORARY SAVED AMOUNT SEEK ACCESS TIME VIDEO INFORMATION RECORDING TIME SEEK ACCESS TIME ROTATION WAIT TIME ROTATION WAIT TIME SEEK ACCESS TIME ROTATION WAIT TIME SEEK ACCESS TIME ROTATION WAIT TIME FIG. 25 OF VIDEOINFORMATION IN BUFFER MEMORY TEMPORARY SAVED AMOUNT SEEK ACCESS TIME VIDEO INFORMATION RECORDING TIME VIDEO INFORMATION RECORDING TIME ROTATION WAIT TIME JUMP ACCESS TIME SEEK ACCESS TIME JUMP ACCESS TIME ROTATION WAIT TIME FIG. 26

OBLON, SPIVAK, et al.

DOCKET NO: 249791US2S DIV

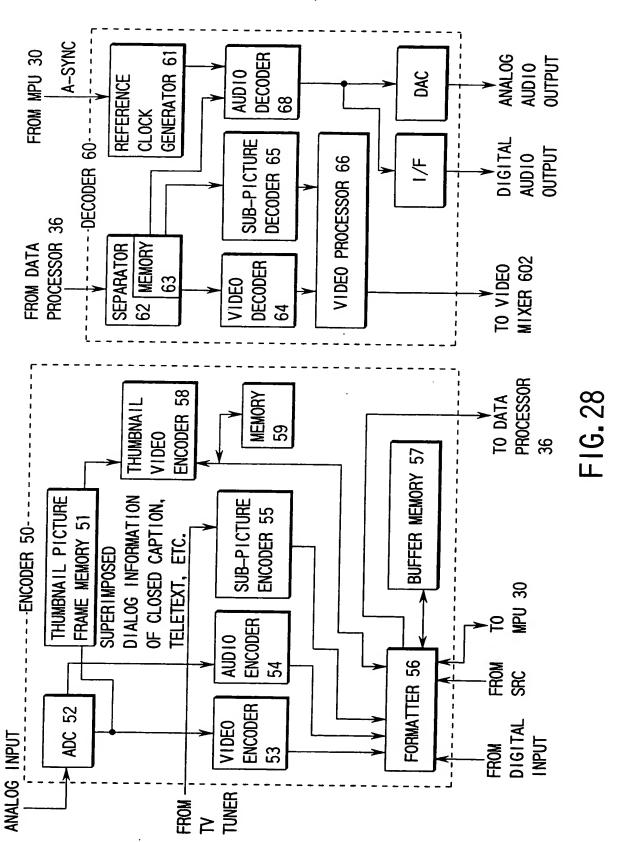
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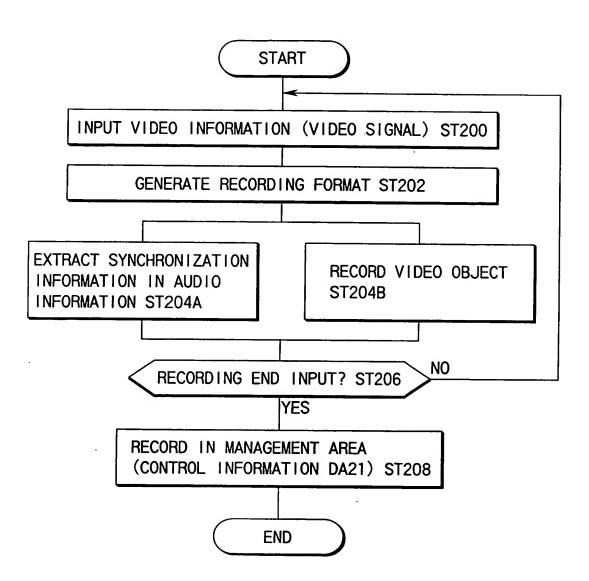
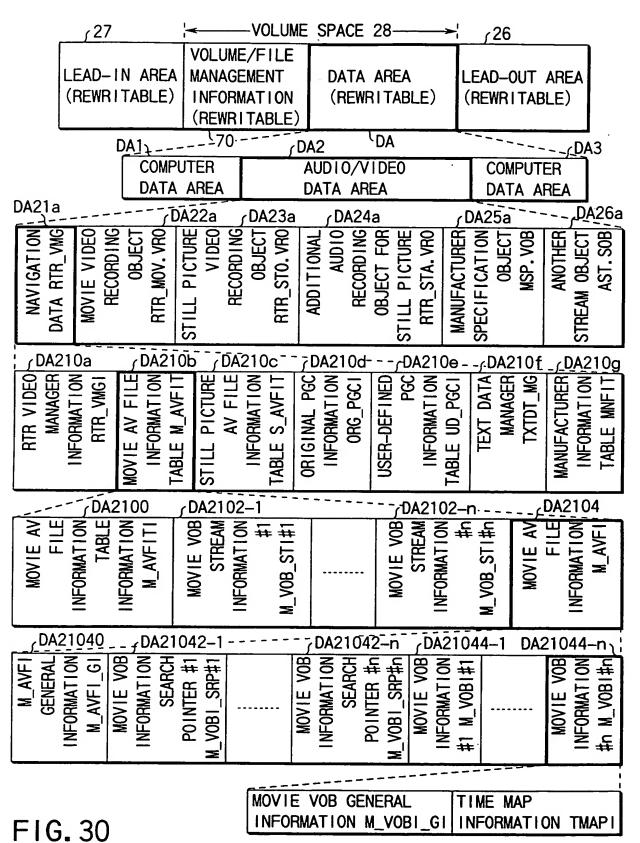


FIG. 29

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1STREF _SZ		OBU_F TM	PB	VOBU _SZ				1S7 _S2	TREF Z	VOB	U_PB	3	VOBU _SZ	
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3 OF JRES J #1	3 OF	NUMBER OF PICTURES JF VOBU #2 SIZE OF VORI #1							URE C	#	100	ב ה ה	# 8 # 8	
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TIME MAP GENERAL INFORMATION TMAP_GI

RELATIVE BYTE POSITION	FIELD NAME	CONTENTS	NUMBER OF BYTES
0-1	TM_FNT_Ns	NUMBER OF TIME ENTRIES	2
2–3	V0BU_ENT_Ns	NUMBER OF VOBU ENTRIES	2
4–5	TM_OFS	TIME OFFSET	2
6–9	ADR_OFS	ADDRESS OFFSET	4

FIG. 32

TIME ENTRY TM_ENT

RELATIVE BYTE POSITION	FIELD NAME	CONTENTS	NUMBER OF BYTES
0–1	VOBU_ENTN	VOBU ENTRY NUMBER	2
2	TM_DIFF	TIME DIFFERENCE	1
3–6	VOBU_ADR	TARGET VOBU ADDRESS	4

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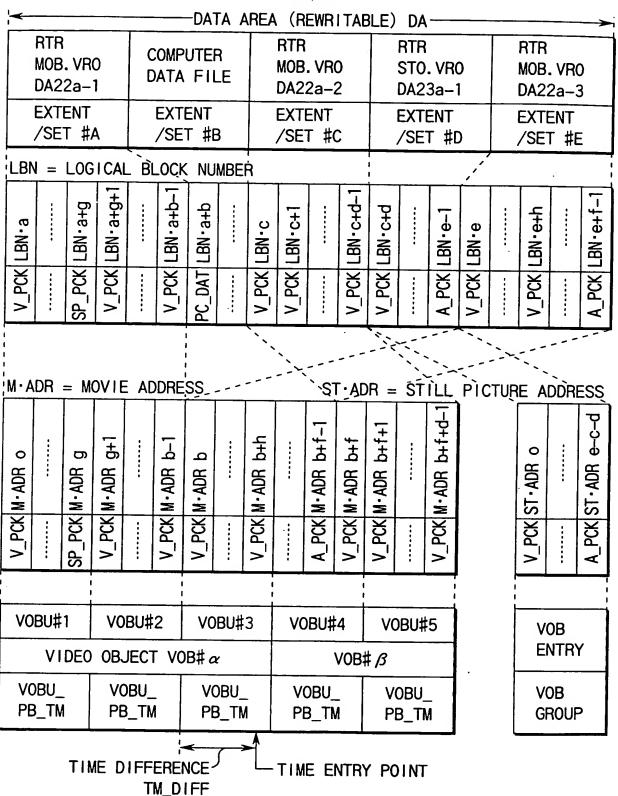


FIG. 34

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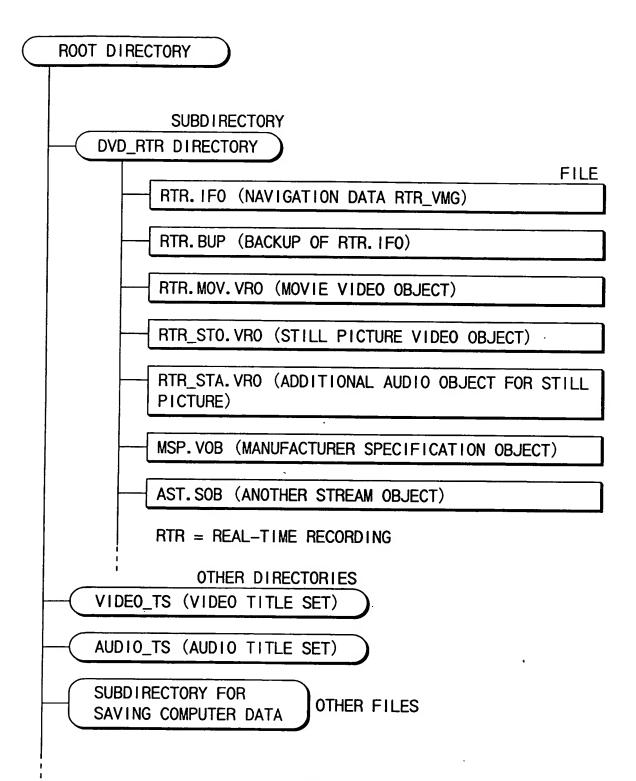


FIG. 35

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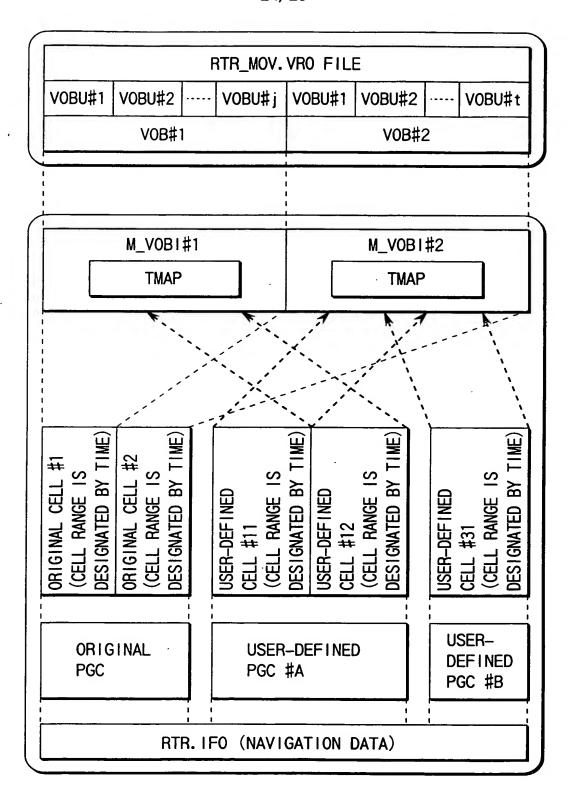


FIG. 36

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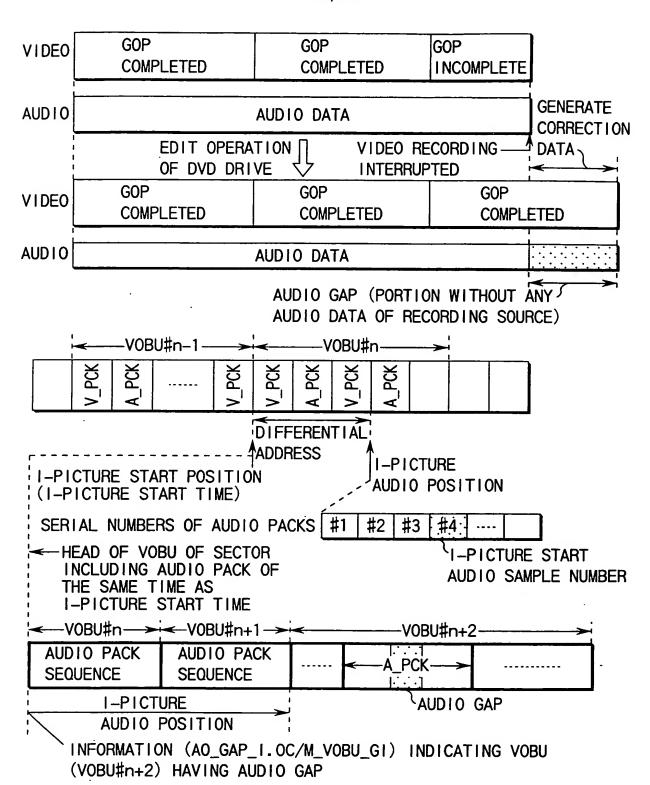


FIG. 37